

Case Studies

Technical Guidelines

April 4, 2022

Structure

- ▶ Introduction
- ▶ Problem and Data Description
- ▶ Methods
- ▶ Empirical Results
- ▶ Conclusion

Layout

- ▶ Use the following margins: left=2.5cm, right=2.5cm, bottom=3cm, top=2cm
- ▶ Use 1.5 line spacing.
- ▶ Use “standard” font.
- ▶ Use 12pt font size.
- ▶ The “core” of the paper (excluding front page, table of contents and appendix) must not exceed 15 pages.
- ▶ Assign page numbers.
- ▶ Use \LaTeX .

Guideline for the reports

Front page

- ▶ Name of the course
- ▶ Project topic
- ▶ Names of the lecturers
- ▶ Names of the author and the other group members
- ▶ Date

Guideline for the reports

Table of contents

- ▶ Listing of all sections (including subchapters, if any), the appendix, and the bibliography (but not the table of contents itself), each with corresponding number or letter (cf. later), and with indication of the page number on which the corresponding chapter begins.

Note: The table of contents belongs on the second page.

Guideline for the reports

Section 1: Introduction

- ▶ Intrinsic motivation, brief description of the topic and the objective of the project
- ▶ Brief explanation of the procedure for solving the problem
- ▶ Very brief presentation of the main results
- ▶ Overview of the individual chapters

Note: The introduction and conclusion should be independently readable

Guideline for the reports

Section 2: Problem and Data Description

- ▶ Description of the objectives of the project (research hypotheses, content-related and statistical objectives)
- ▶ Description of the data material
 - ▶ Background and type of data collection (planned experiment, observational study, questionnaire, etc.)
 - ▶ Type and size of the sample (full survey, stratification, etc.)
 - ▶ Description of all variables (contextual meaning, units, etc.)
 - ▶ Discussion of data quality (missing values, measurement accuracy, etc.)

Guideline for the reports

Section 3: Methods

- ▶ Description of the statistical methods, models, etc. used and what properties they have (mathematical formulas are also necessary here)
- ▶ Indication of the tools used (software, etc.)
- ▶ Discussion of the underlying assumptions, justification of the assumptions or presentation of how they can be verified

Guideline for the reports

Section 4: Empirical Results

- ▶ Review of the underlying assumptions, if applicable (Are they met?)
- ▶ Detailed presentation of the results, prepared with the help of tables and figures
- ▶ Interpretation of the results with respect to the problem

Guideline for the reports

Section 5: Conclusion

- ▶ Brief recap of the problem of the project
- ▶ Brief presentation of the most important results
- ▶ Discussion of the results (possible conclusions, warning against misinterpretation, etc.)
- ▶ Outlook (open questions, reference to possible further investigations, etc.)

Note: The introduction and conclusion should be independently readable.

Guideline for the reports

Appendix

- ▶ Other important tables and figures
- ▶ But put the most important ones in the main text
- ▶ Be aware that we will read the main text, but might not read the Appendix.

Guideline for the reports

Bibliography

- ▶ Listing of all journal articles, books (including e.g. software manuals) and web pages used for the evaluation

Notes:

- ▶ Example of a textbook source:
Schumacher, M., and Schulgen, G. (2008): Methodik klinischer Studien, 3rd ed., Springer, Berlin.
- ▶ Example of a journal article source:
Byth, K., Cox, D. R., and Forder, P. (2006): Assessing the relationship between symptoms of allergic rhinoconjunctivitis and pollen counts, Australian and New Zealand Journal of Statistics 48, 417–428.
- ▶ For web pages, the date of the (last) query must be included.
- ▶ All sources listed in the bibliography must be cited in the text and vice versa.

Guideline for the reports

Outline

- ▶ All sections (and subsections, if any) of the core are assigned a number.
- ▶ In the case of an outline in the appendix (which is not mandatory, e.g., if the appendix is short), letters are used, e.g. Appendix A, Appendix B, etc.
- ▶ Table of contents and bibliography are not given a number or a letter.

Guideline for the reports

Figures and tables

- ▶ All figures must be given a subheading or heading. It is optional what is used, it should just be used consistently within the paper.
- ▶ Figures and tables are numbered consecutively, e.g.: “Figure 2.1: Title or explanation of the figure” or “Table 2.1: Title or contents of the table”.
- ▶ Figures and tables in the appendix must also be numbered and contain a subheading or heading.

Guideline for the reports

- ▶ Each figure and table must be referred to at least once in the text (this also applies to those in the appendix). The corresponding number of the figure or table is used (e.g.: “Table 2.1 contains ...”).
- ▶ A figure or a table should appear on the page or following page of the first reference in the text, but never before.
- ▶ Figures and tables should be self-explanatory. This includes that all axes are labeled. Additional relevant information can be displayed in a legend.

Guideline for the reports

References

- ▶ Within the paper, references to a literature source are made by means of author (year) or (author, year).
- ▶ If there are two authors, both must be indicated. If there are more than two authors, the abbreviated form Author 1 et al. (year) or (Author 1 et al., year) should be chosen. If there are several works by the same author from the same year, they are additionally distinguished by letters after the year: (2005a), (2005b), etc.

Example for the publications named above:

- ▶ Schumacher and Schulgen (2008) or (Schumacher and Schulgen, 2008)
- ▶ Byth et al. (2006) or (Byth et al., 2006)

Guideline for the reports

- ▶ It is often useful to include the corresponding chapter (for books) or section (for papers) or page (for both).
Example: “The disjunctive normal form for the system reliability function is taken from Hartung et al. (2005, p. 756).”
- ▶ A reference must also be given for the software used. Publishers often specify how to refer to the software.

Guideline for the reports

Mathematical formulas

- ▶ Mathematical formulas and symbols (whether indented or in body text) must be set off from the rest of the typeface (*mathfont* in \LaTeX).
- ▶ Use the same symbol for the same quantity throughout the report.
- ▶ Do not use the same symbols for different quantities.
- ▶ Mathematical equations can also be numbered (using “(number)”) so that they can be referred to in the text. Number only those equations to which you are explicitly referring to in text.

Guideline for the reports

Further notes

- ▶ Linguistically, precise and factual/scientific wording should be used. Avoid experiential style, colloquial language, filler words, too many repeated words, and long nested sentences.
- ▶ Citations must be identified as such (indentation of the text, quotation marks, exact indication of the book/article and page number) and must not consist of longer text passages. Copying of text passages is not allowed! We will check this and violations will be considered plagiarism. In case of violations, the course is considered failed.
- ▶ In many places, the exact formatting is not clearly defined. It is important here that once a form has been chosen, it is applied consistently throughout the paper.